



Design Your Dream Space: AI & AR Home Decor Assistant Case Study

An UX/UI Case Study on blending Artificial Intelligence and Augmented Reality to revolutionize the process of home interior design.

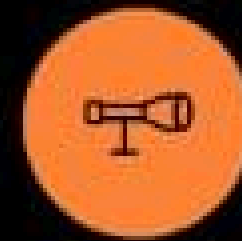


About the Project



Core Goal

Create an intuitive AI-powered application that empowers users to design and visualize their dream home spaces with unparalleled realism using Augmented Reality.



Project Scope

Covered the full design spectrum: from foundational user research and competitive analysis to detailed UX/UI design, focusing on the seamless integration of AI suggestions and AR visualization tools.

Addressing Core User Challenges

Problem Statements & Solutions

Problems

The Visualization Gap: Users struggle to visualize how furniture and decor truly fit their space for scale, color, and style before committing to a purchase. This uncertainty leads to high return rates and customer frustration.

- Users can't visualize furniture scale and fit in their actual space
- Online furniture looks different than in real rooms
- Expensive returns from poor purchasing decisions
- Overwhelmed by too many choices without guidance



Our Solutions

- AI analyzes preferences for personalized recommendations
- AR shows exact furniture placement in real space
- Direct purchase links eliminate shopping friction
- 3D models and measurements build purchase confidence



User Research: Understanding Our Audience Research Summary

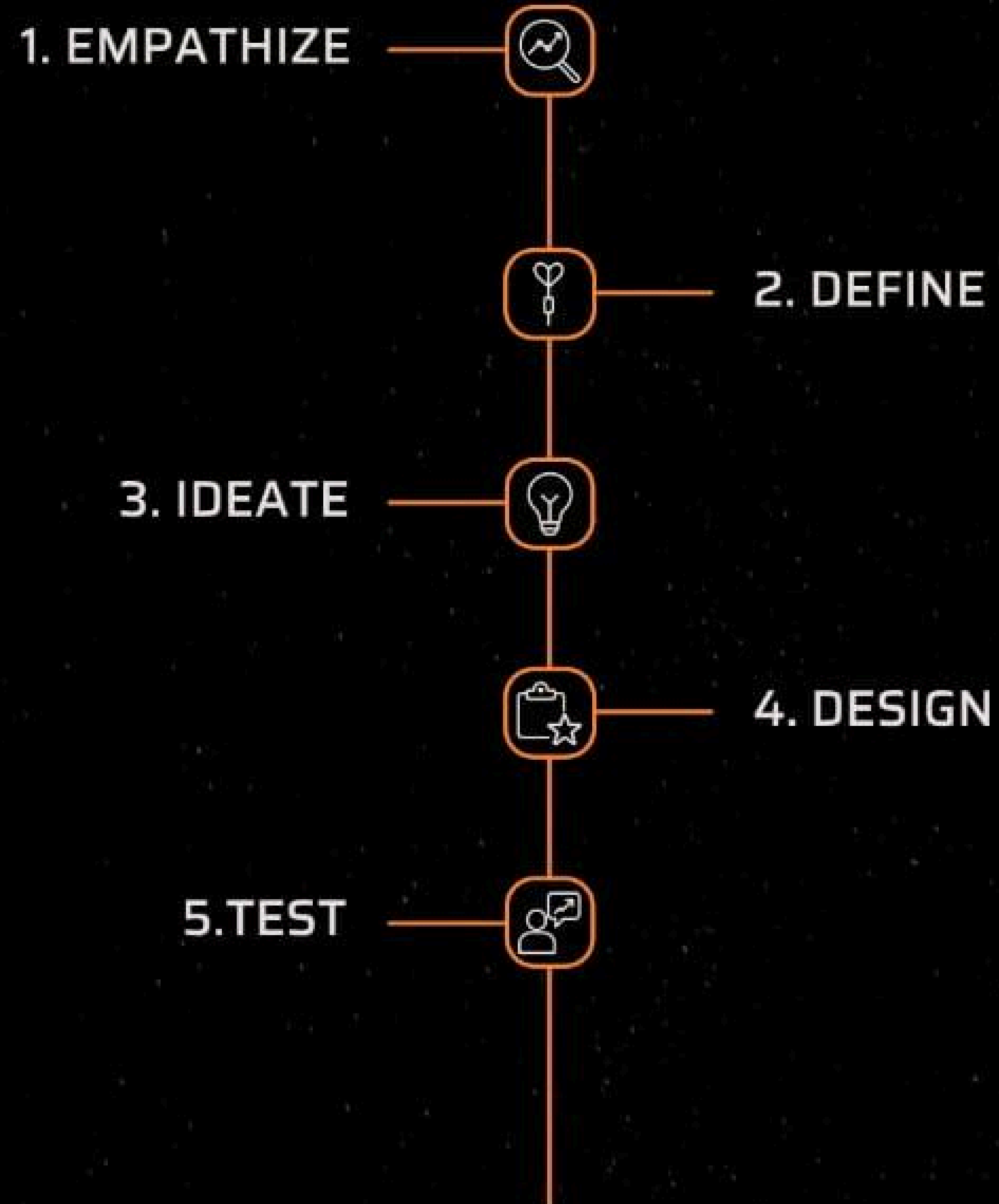
We conducted extensive interviews with over 5+ users across key demographics, including homedecore enthusiasts, committed DIYers, and first-time homeowners.

This qualitative research revealed three critical user needs that our solution must address:

- Accurate measurement and style matching
- Desire for consolidated shopping (avoiding app hopping)
- Demand for direct purchase links from inspiration sources

Our Design Process

Following the Design Thinking methodology to create user-centered solutions



Our Vision: Goals & Audience

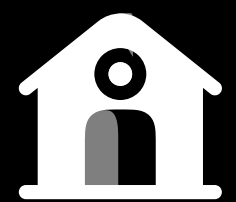
Major Goals

Enhanced Visualization
Empower users to accurately preview furniture and decor in their living spaces using AR, boosting confidence and reducing purchase uncertainty.

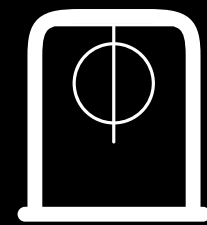
Personalized Design
Provide AI-driven style suggestions and product recommendations tailored to individual tastes, budget, and room dimensions.

Streamlined Experience
Integrate a smooth shopping flow from visualization to purchase, minimizing friction and consolidating the entire design process.

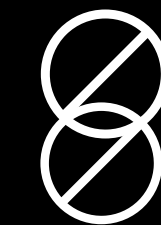
Target Audience



New Homeowners
Individuals furnishing their first homes, often seeking guidance and efficient, budget-friendly solutions.



Decor Enthusiasts
Passionate about interior design, they seek advanced tools for precise styling and experimentation.



Tech-Savvy Shoppers
Early technology adopters who value innovative solutions for a simplified and efficient home decor shopping experience.

Competitive Analysis & Strategic Positioning

A detailed analysis of key competitors, highlighting market gaps our AI/AR solution is uniquely positioned to fill, alongside a comprehensive SWOT assessment.

Competitive Feature Analysis

Feature	Our Solution	IKEA Place	Houzz	Wayfair
AR Visualization	✔	✔	✔	✔
AI Recommendations	✔	✖	●	●
Product Integration	✔	✔	✔	✔
User Experience	✔	●	✔	●
Price Range	Freemium	Free	Free	Free
Platform Availability	iOS, Android, Web	iOS, Android	iOS, Android, Web	iOS, Android, Web

SWOT Analysis

Strengths

- AI-driven personalization
- Accurate AR visualization
- Integrated shopping experience
- Strong user engagement focus

Weaknesses

- New tech adoption barriers
- Initial complexity of onboarding
- Brand recognition in crowded market
- High development costs

Opportunities

- Growing \$3.5B AI design market
- Rising AR device adoption
- Partnerships with major retailers
- Expansion into commercial design

Threats

- Established brands with large user bases
- Subscription fatigue in app market
- Rapid evolution of AR technology
- Potential data privacy concerns

User Personas: Bringing Our Users to Life

Understanding our diverse user base is crucial for designing a solution that truly resonates. We've identified two primary personas that represent key segments of our target audience, each with unique needs and challenges in their home decor journey.



Sarah, The Aspiring Home Stylist

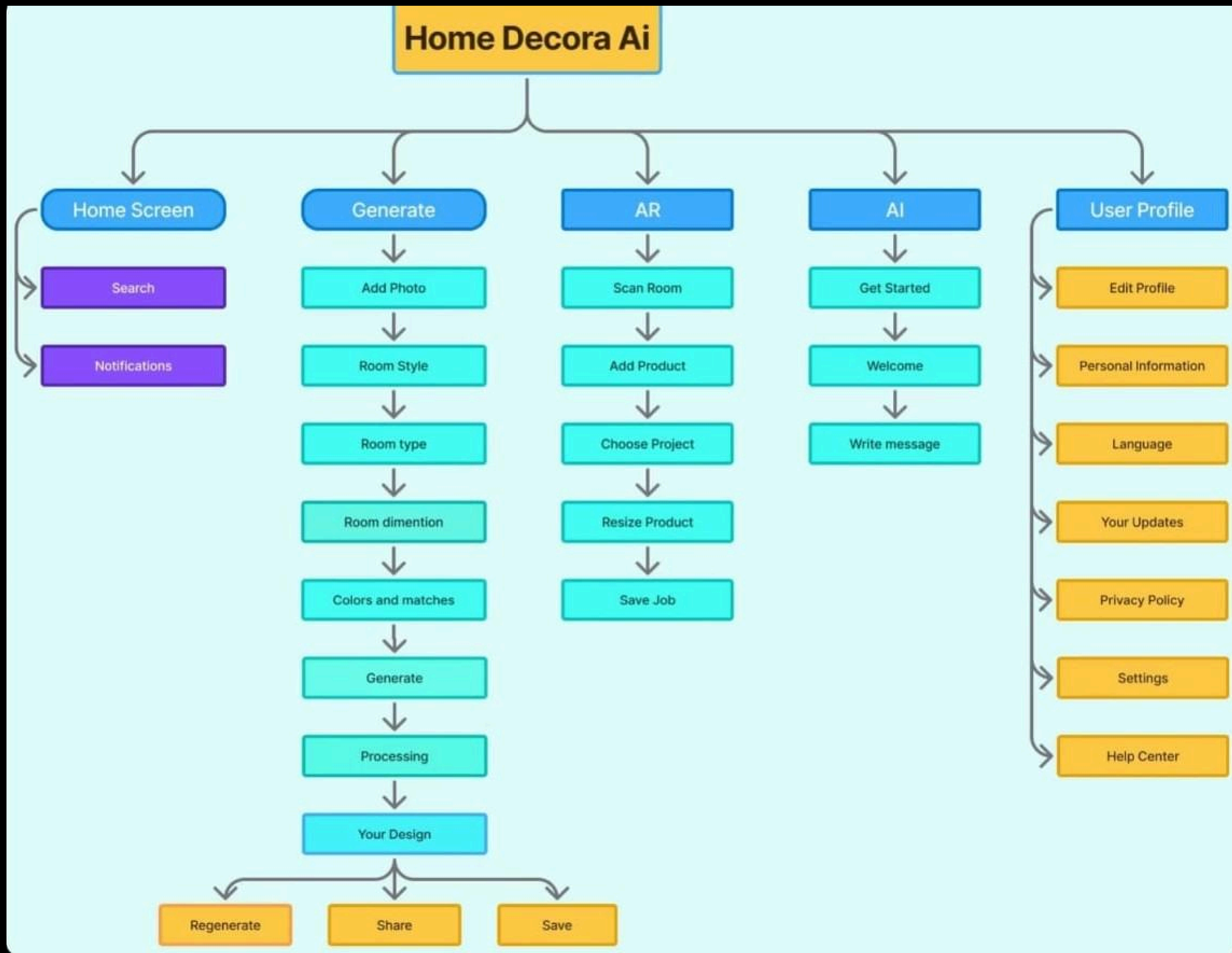
Demographics: 30 years old, Marketing Manager, lives in a recently purchased urban apartment. **Bio:** Sarah recently moved into her first apartment and is eager to make it reflect her personal style without breaking the bank. She loves browsing home decor magazines and Pinterest for inspiration but feels overwhelmed by the sheer number of choices and unsure how different pieces will look together in her actual space. She's tech-savvy and uses apps for many aspects of her life.



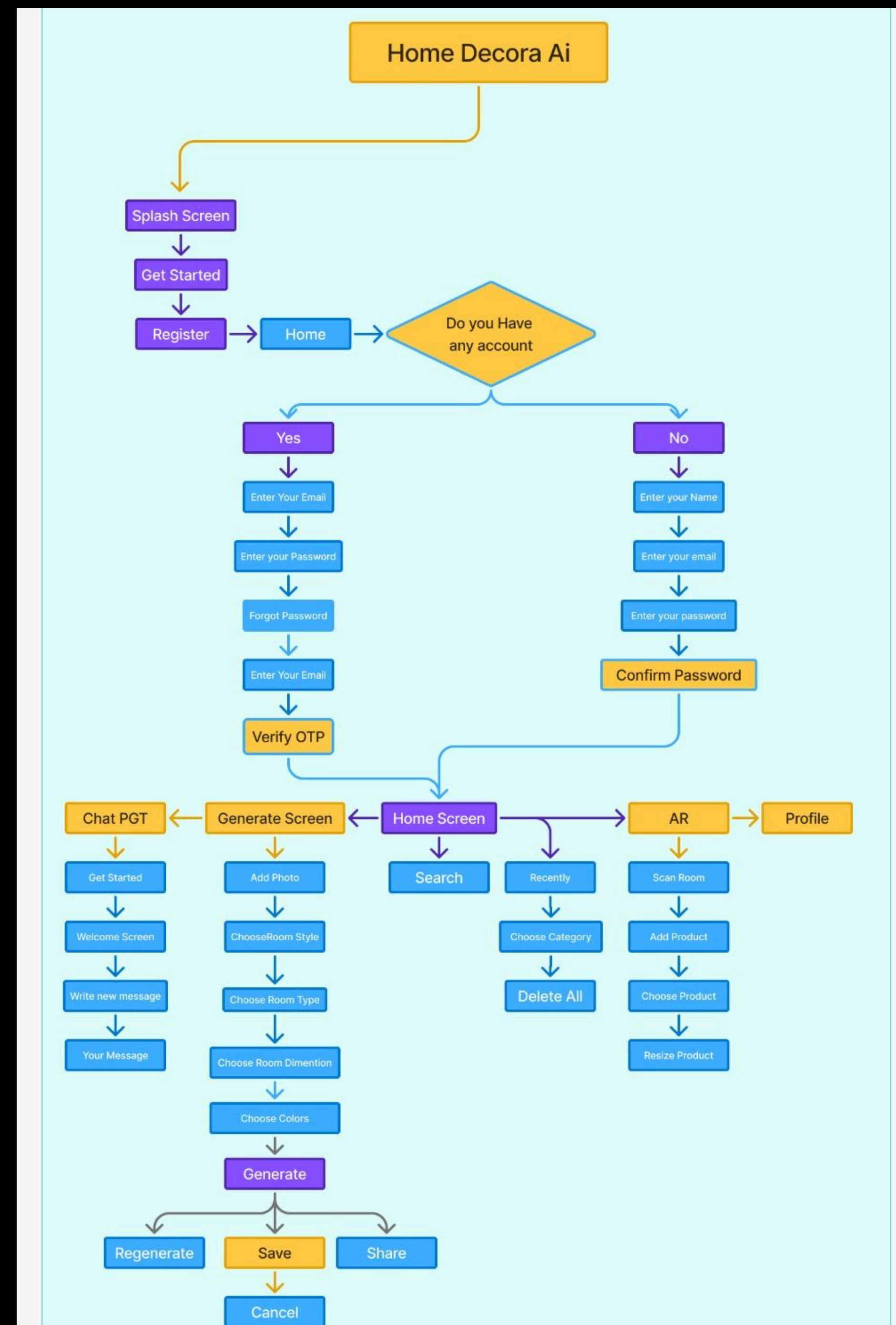
David Miller, The Practical Family Man

Demographics: 45 years old, Software Engineer, married with two young children, owns a suburban house. **Bio:** David is focused on functionality and durability for his family home. He needs furniture that can withstand daily wear and tear from kids and pets, but also wants his space to look presentable and comfortable. He has limited time for shopping and relies heavily on online reviews and efficient solutions. He values practical advice and clear information over endless browsing.

Information Architecture

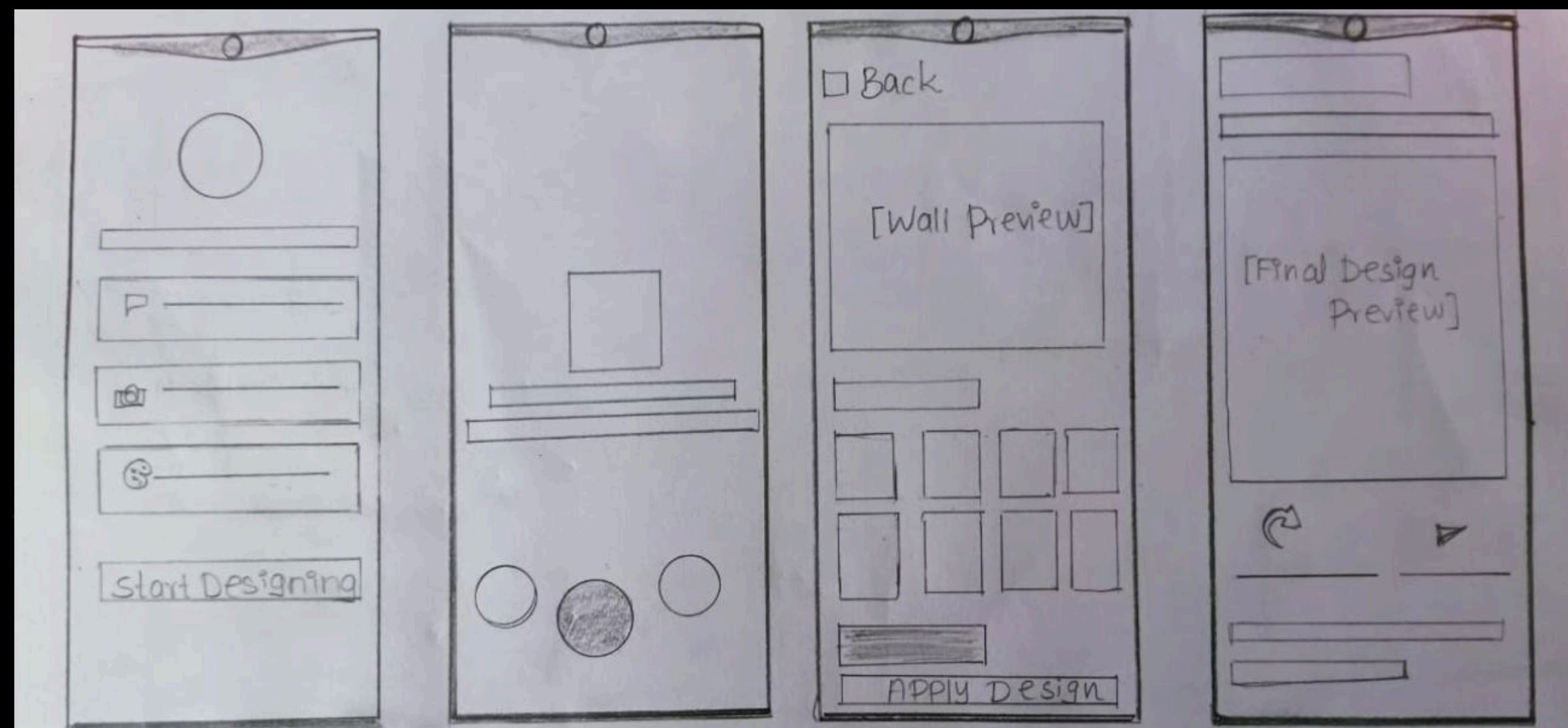
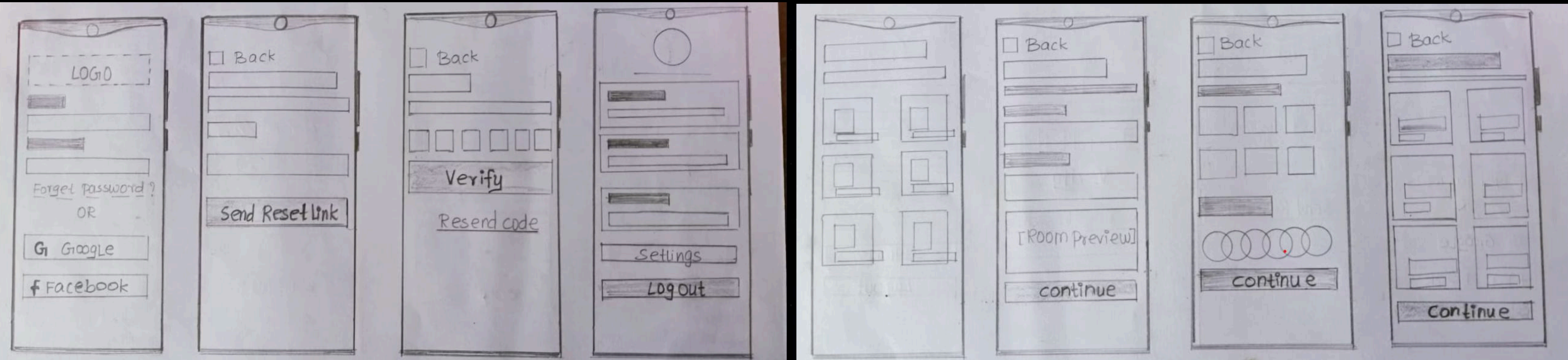


User Flow

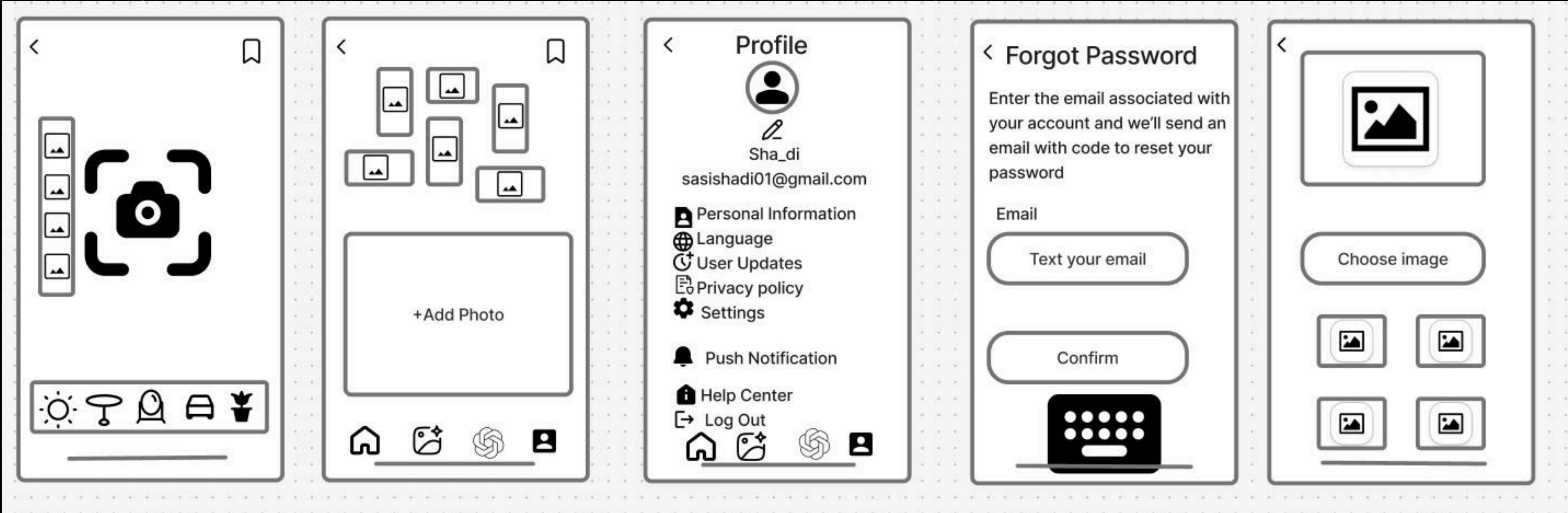
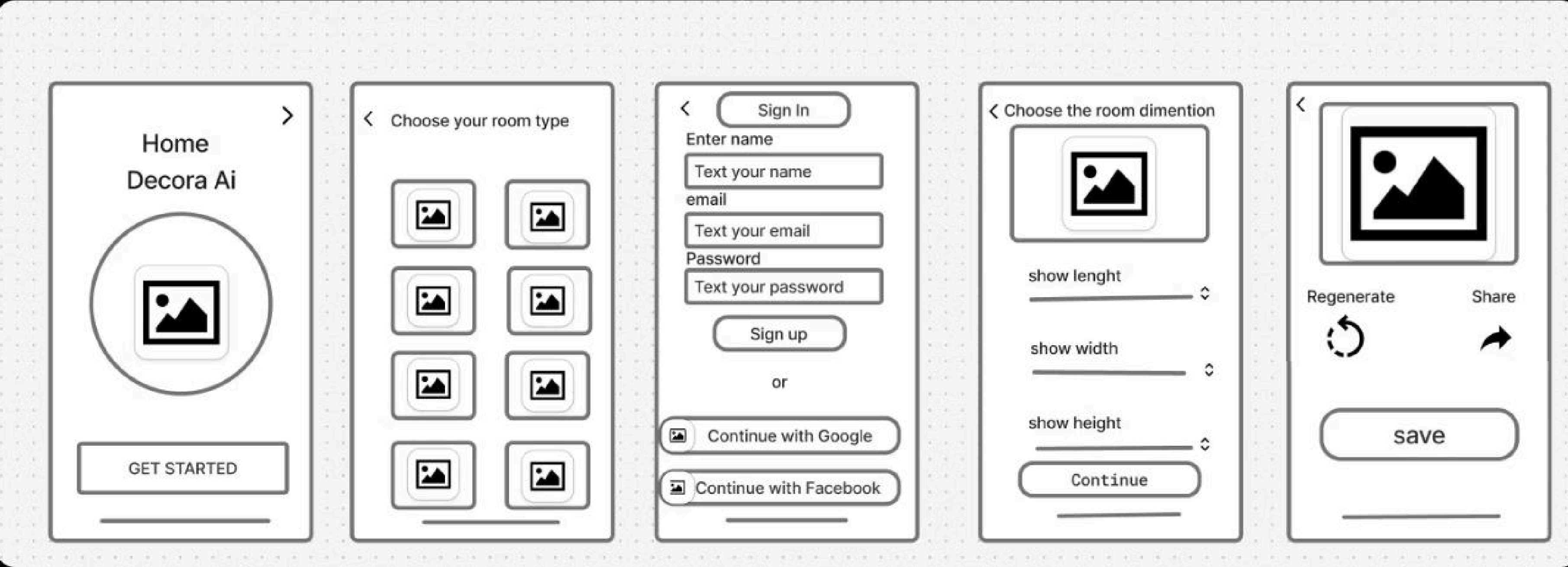


WIREFRAME

LOW FIDELITY FRAMES

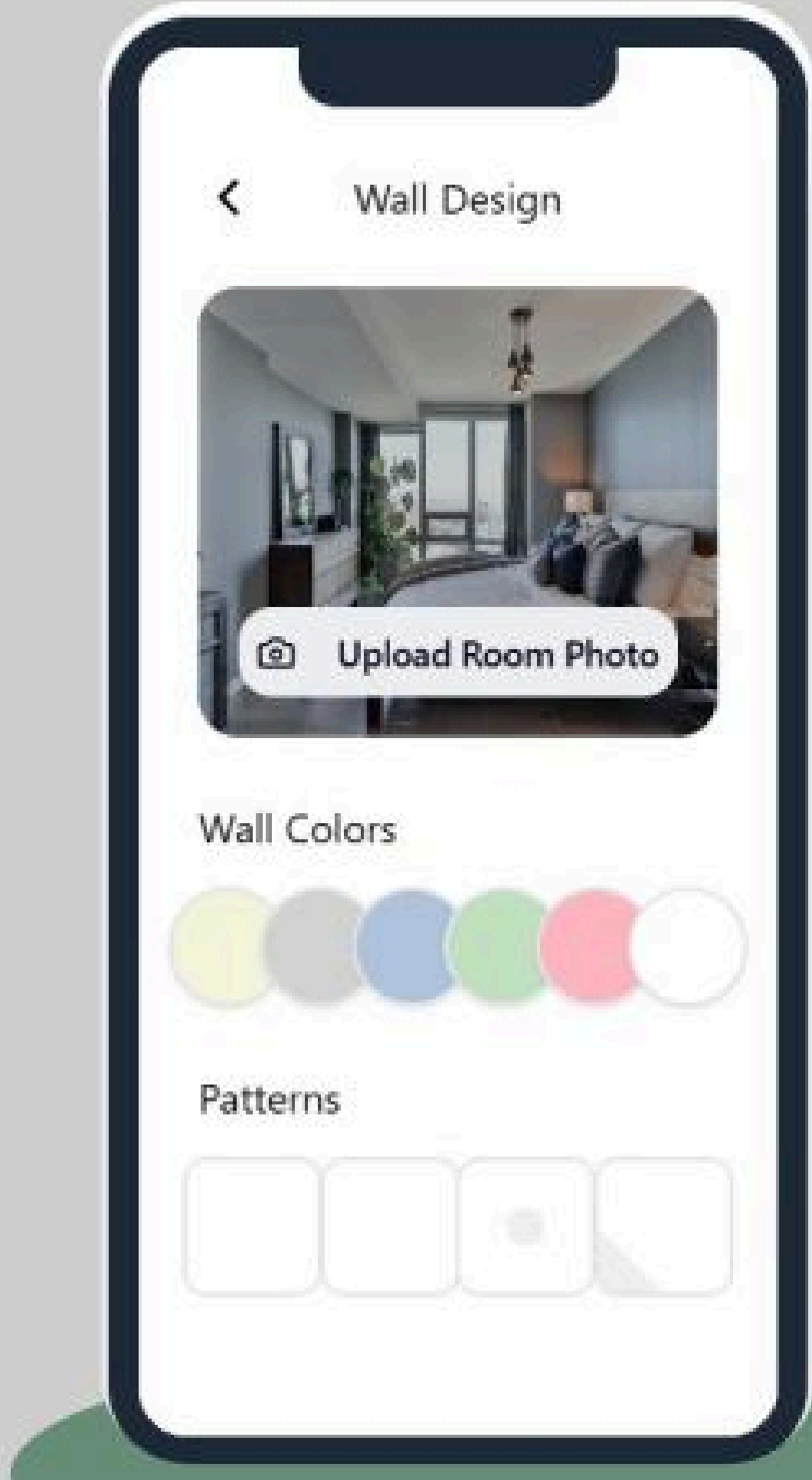
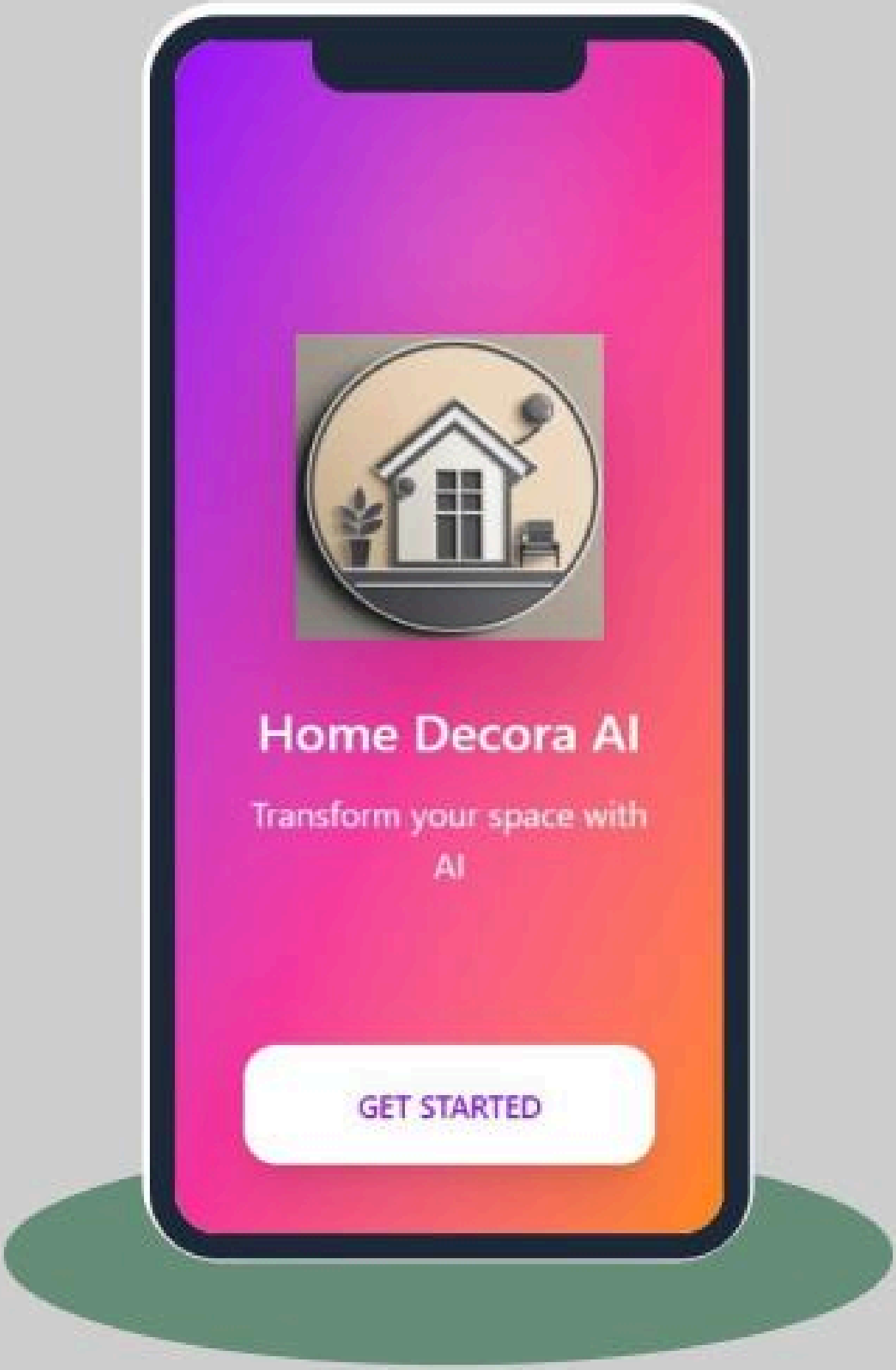
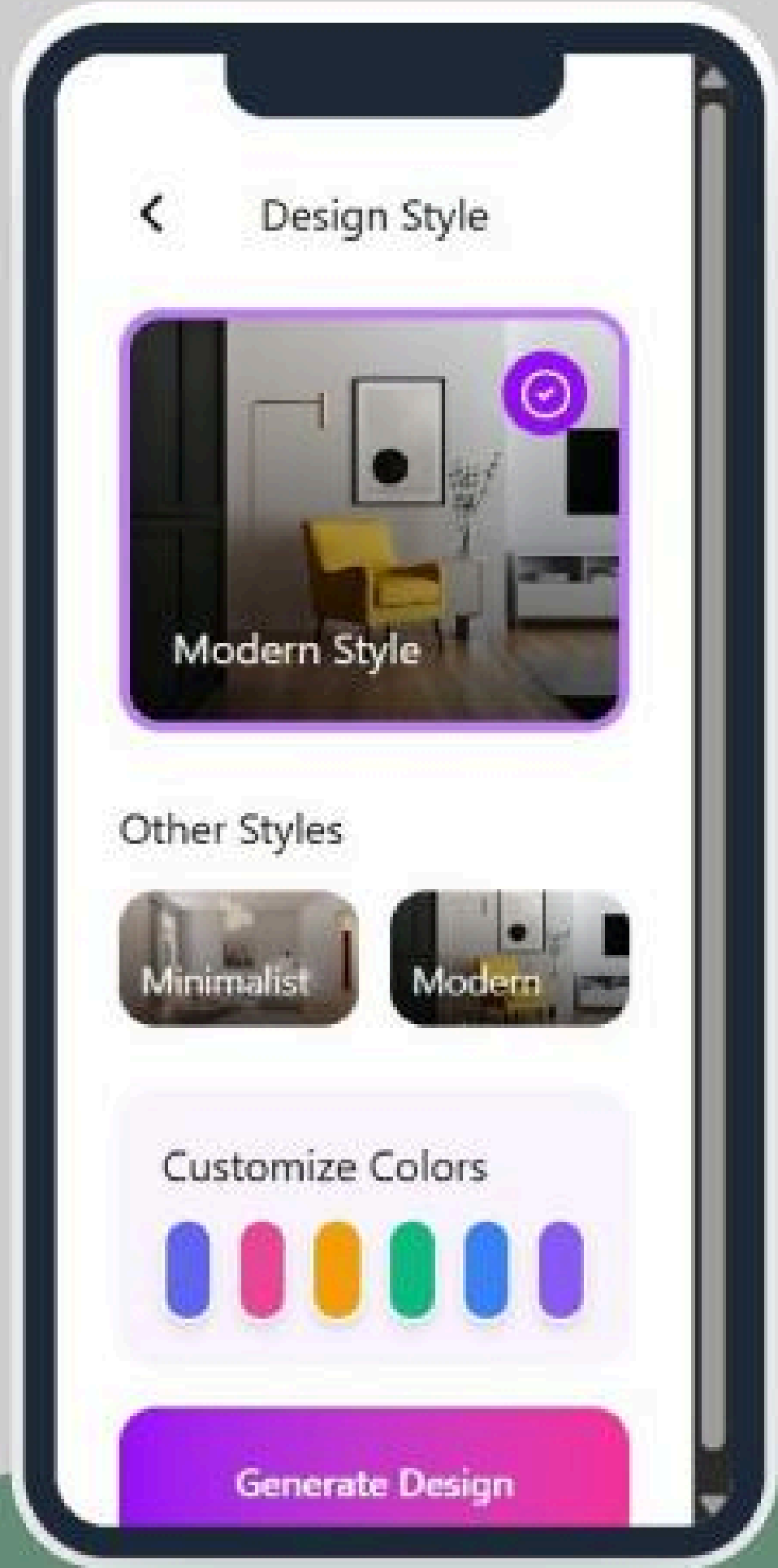


MIDDLE FIDELITY FRAMES



UI Case Study

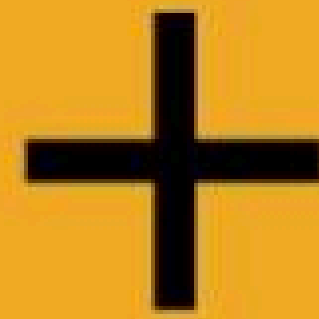
Tools Used



App Logo



Home refer to arrange
empty space



Home Decora AI
Transform your space with
AI

word mark
"Home Decora AI"



Final App Logo

UI Design Kit Color

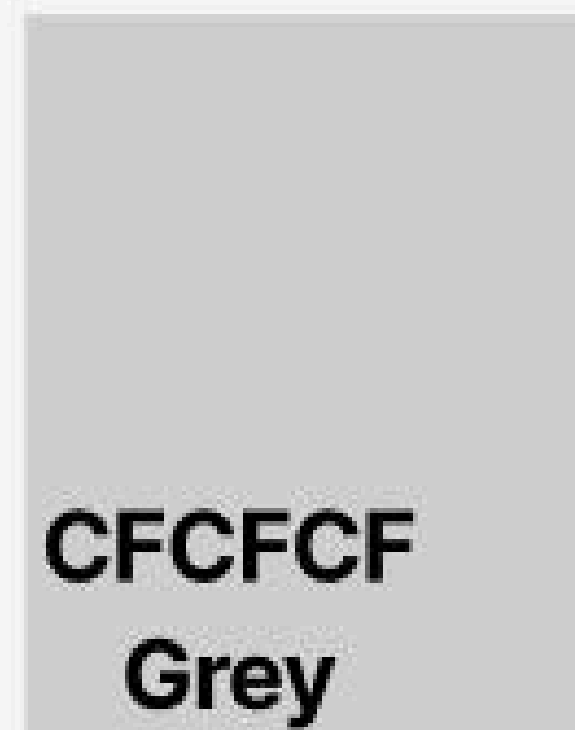
Primary



Secondary



Tertiary



Typography

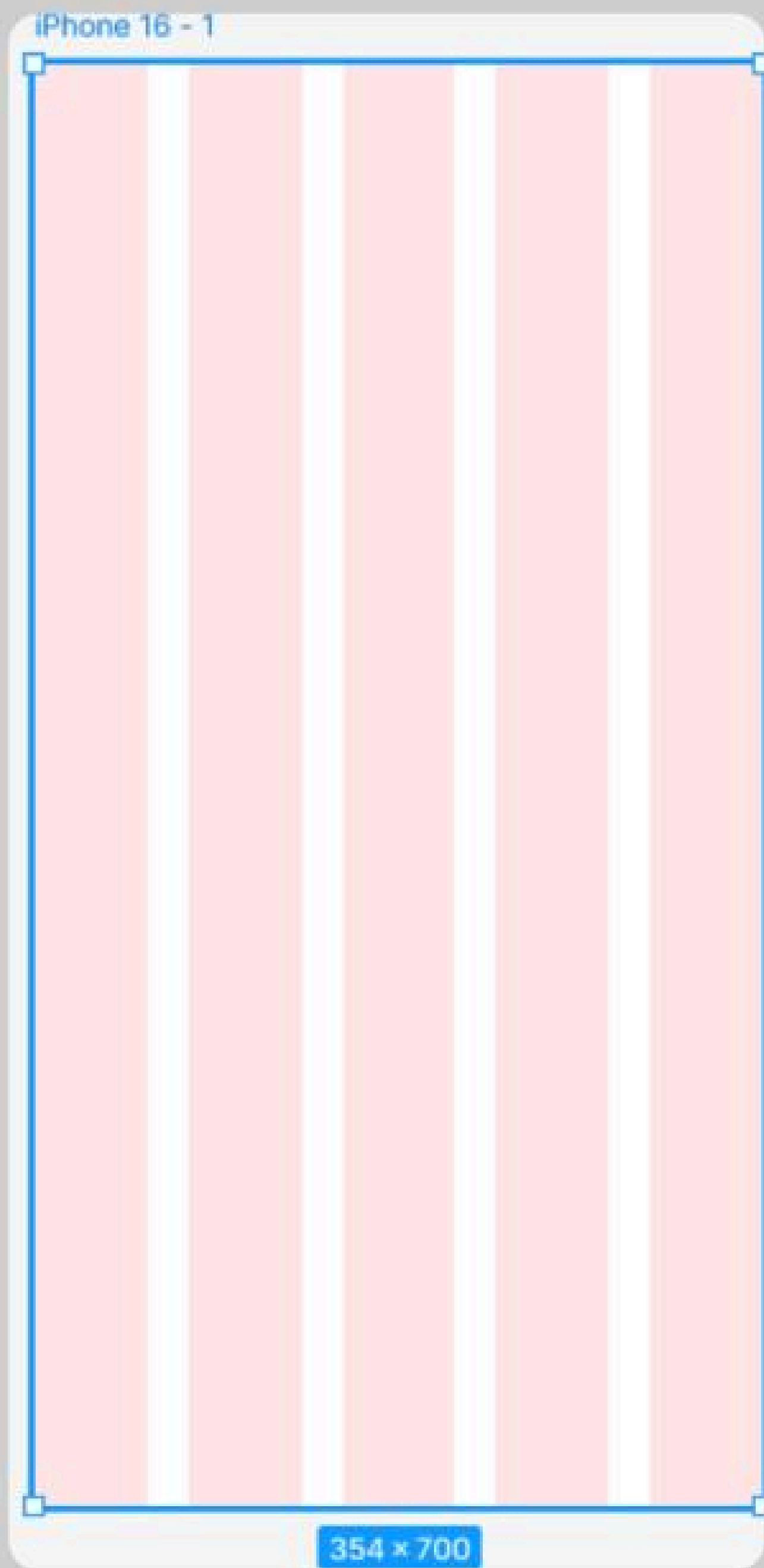
POPPINS

Semi Bold		Medium	
Heading 1	24 PX	Heading 3	12 PX
Heading 2	12 PX	Body 1	10 PX
		Regular	
	Body 3		9 PX
	Body 4		8 PX

Aa Bb Cc Dd Ee Ff Gg Hh Ii
Jj Kk Ll Mm Nn Oo Pp Qq
Rr Ss Tt Uu Vv Ww Xx Yy
Zz 0 1 2 3 4 5 6 7 8 9

A abc

Grid




Columns ▾

×

Count

5 ▾

Color

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10 %

Type

Stretch ▾

Width

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Margin

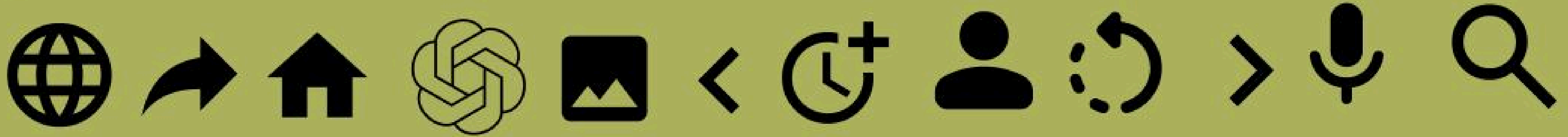
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Gutter

20

Icons and Buttons

Icons



Buttons

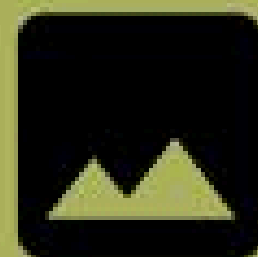


Navigator Bar

Active



Home



image

High fidelity

DecorAI

Sign in to your account

Email

you@example.com

Password

Sign In

Forgot Password?

OR

Continue with Google

Continue with Facebook

← Back

Forgot Password?

Enter your email address and we'll send you a link to reset your password.

Email Address

you@example.com

Send Reset Link

← Back

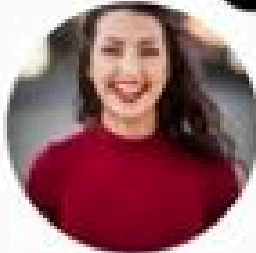
Verify OTP

Enter the 6-digit code sent to your email address.

□ □ □ □ □ □

Verify

Resend Code

 **Jane Doe**
Interior Design Enthusiast

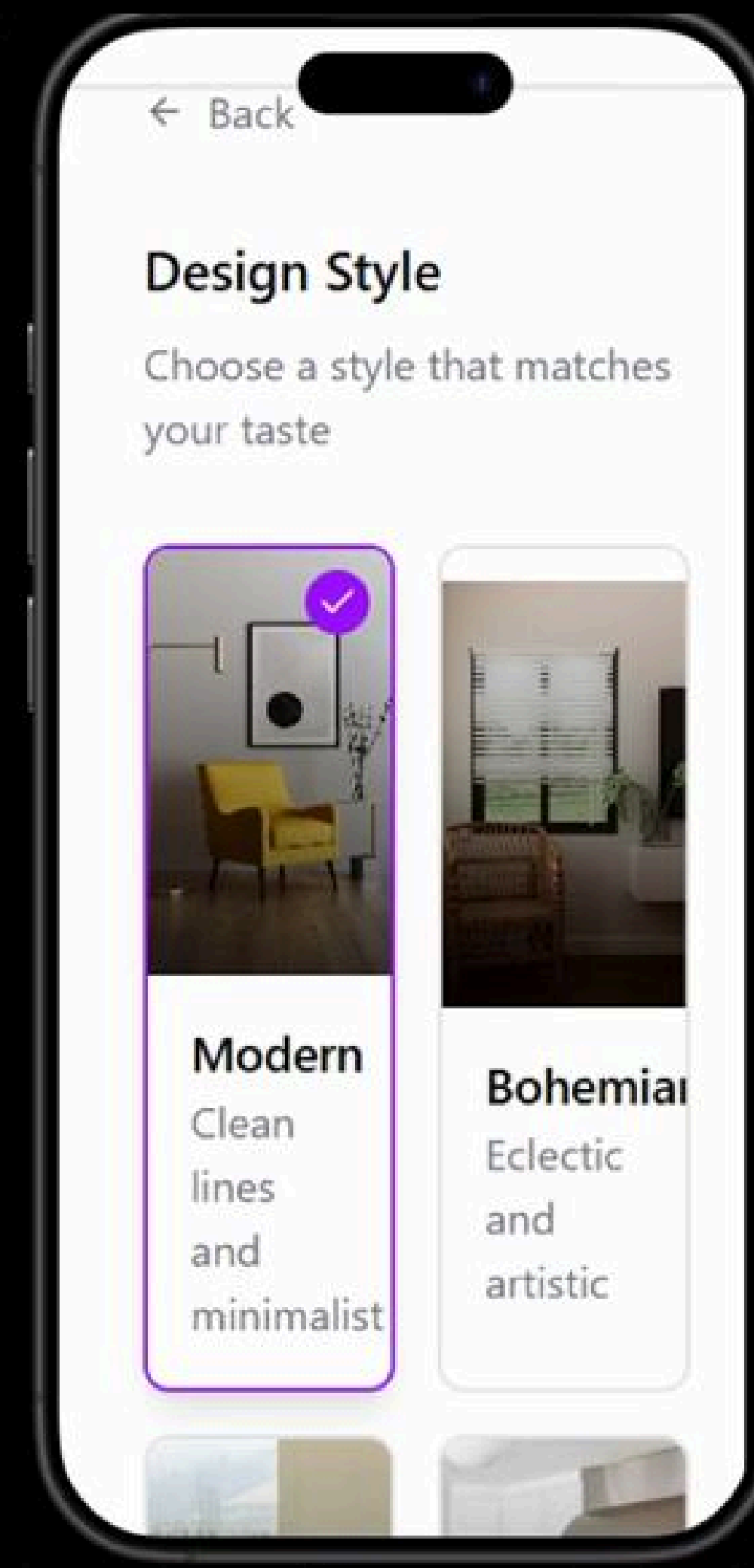
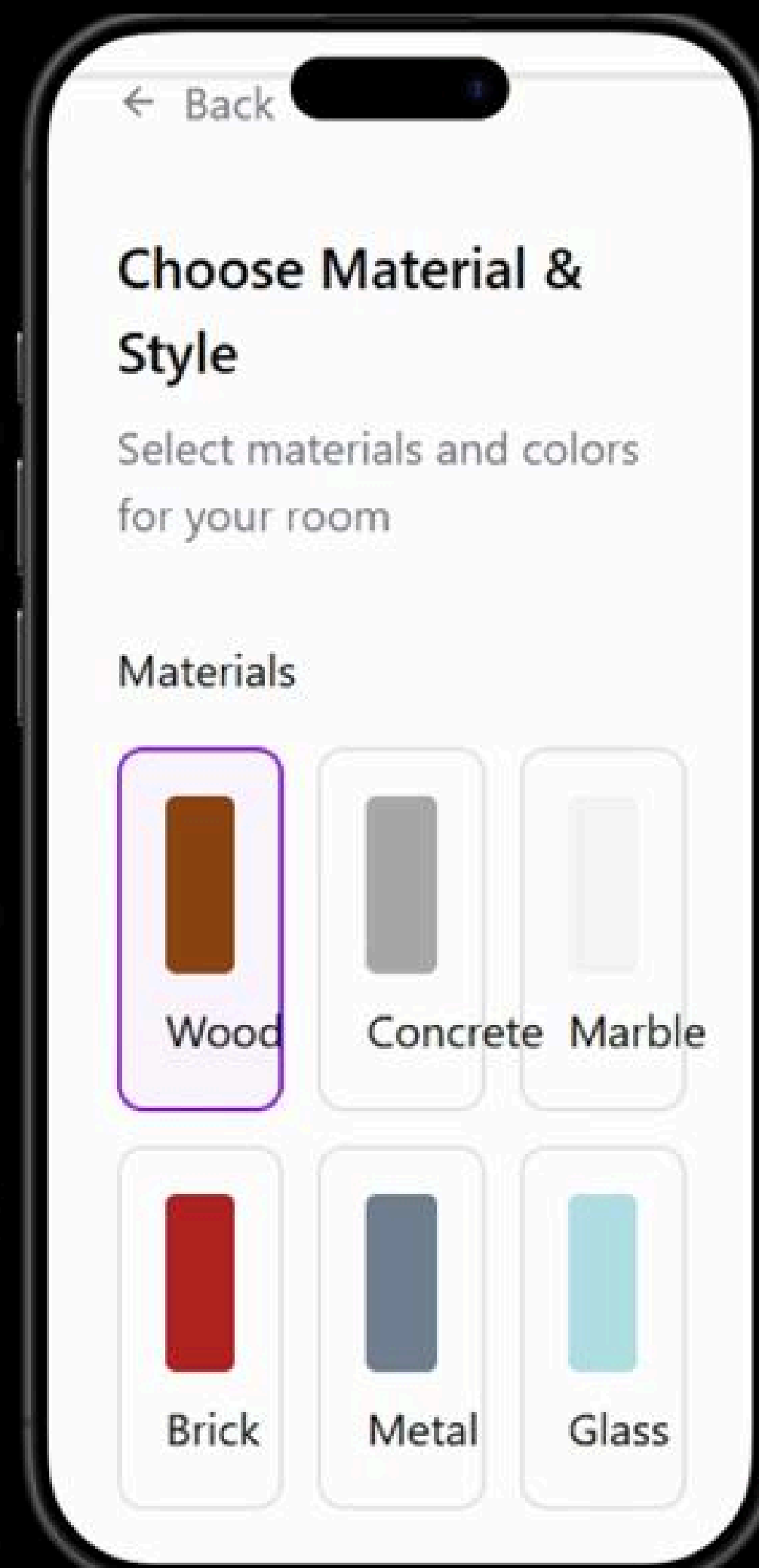
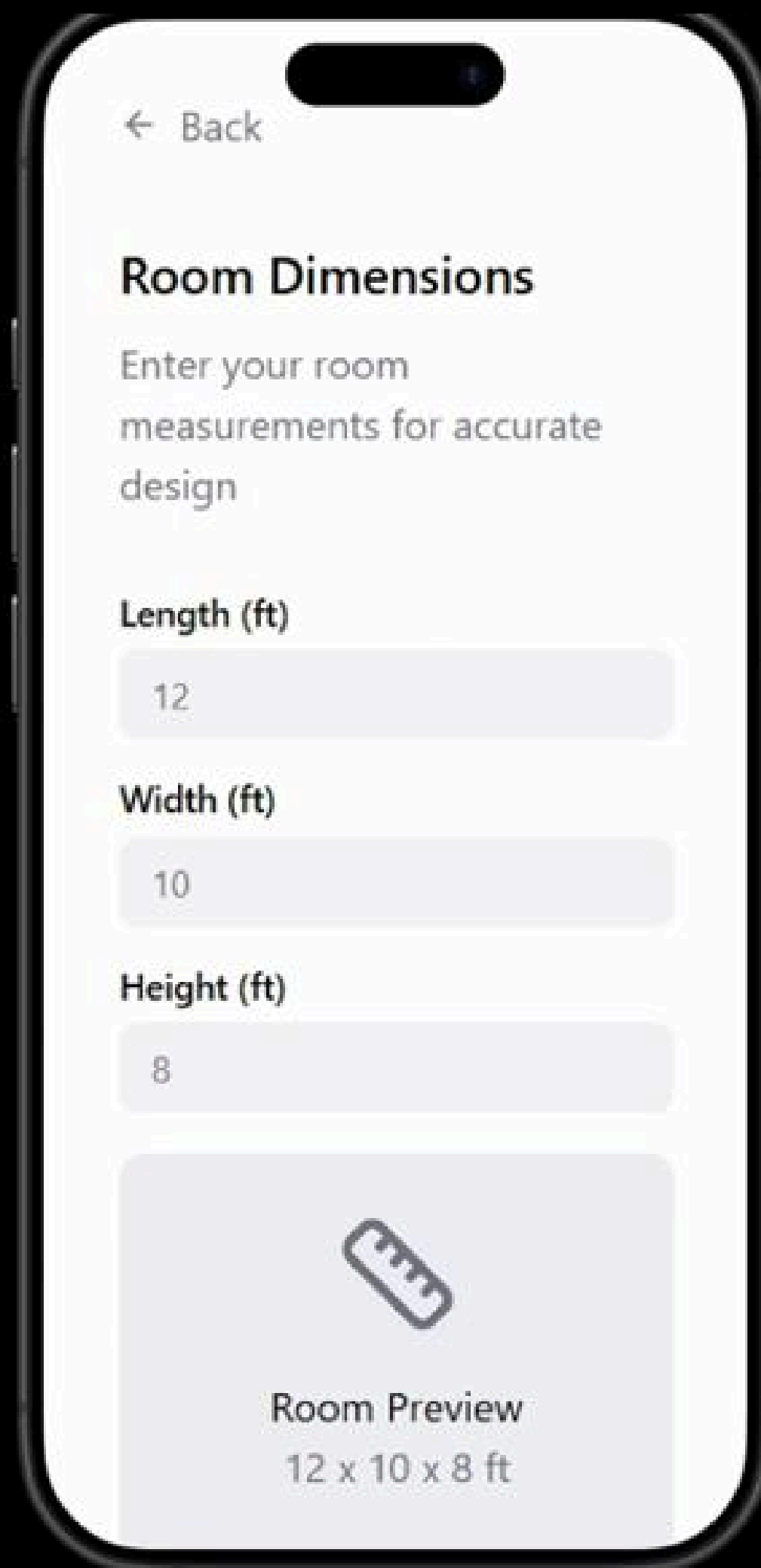
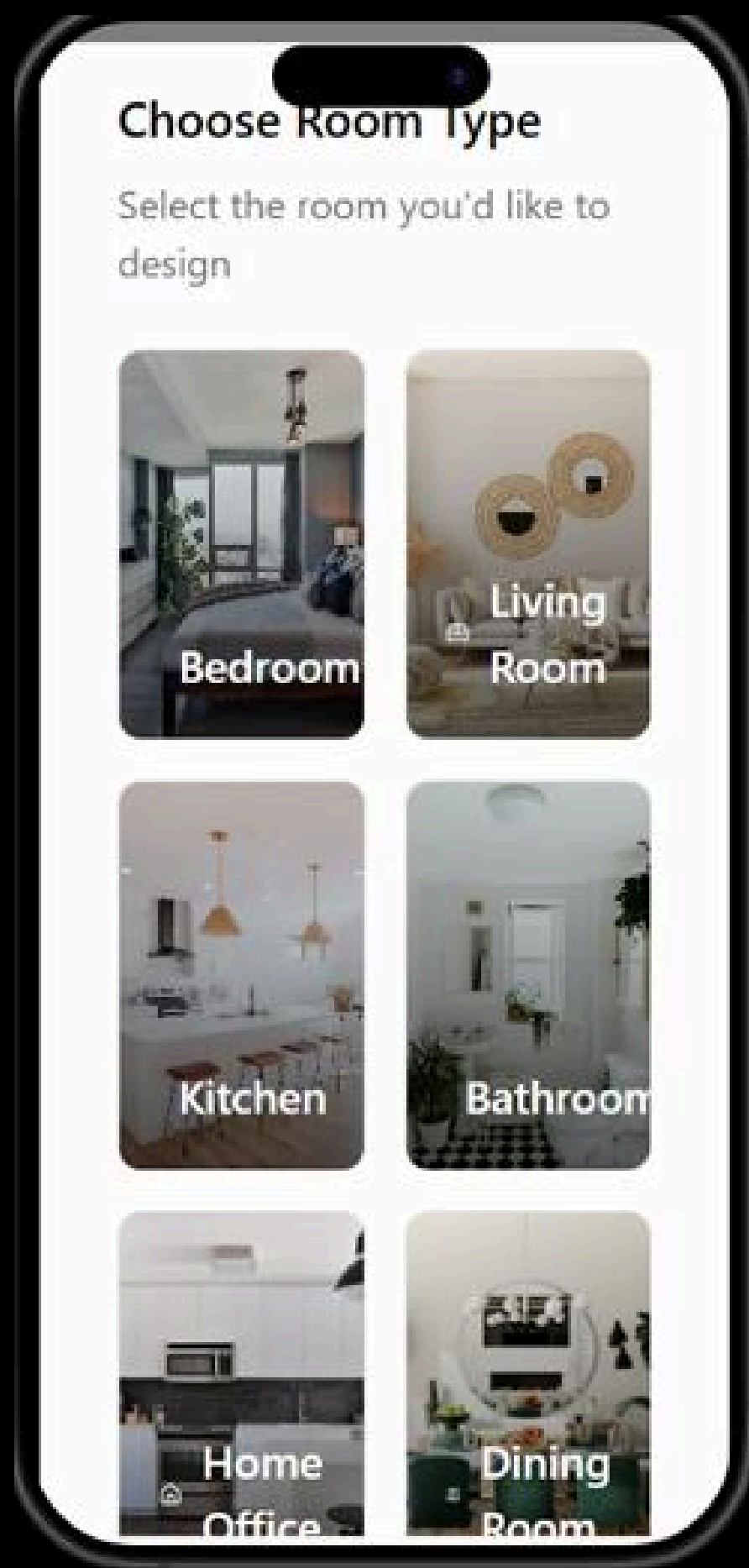
Full Name
Jane Doe

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jane.doe@example.com

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+1 (555) 123-4567

Settings

Logout



Conclusion: Transforming Home Design with AI & AR

The "DesignYour Dream Space" app successfully bridges the gap between abstract inspiration and spatial reality. By combining empathetic UX research with cutting-edge technology, we deliver a seamless, delightful, and highly confident design journey for every user.

Key Takeaways

- Visualization is key: AR eliminates purchase uncertainty and costly returns.
- Personalization matters: AI ensures every design suggestion is relevant and tailored.
- The future is interactive: Home decor planning is moving toward personalized, accessible, and interactive digital tools.

